Ratios (chapter 2)

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Ratio → a comparison of 2 or more amounts of the SAME thing (no units needed

Ratios are shown with a colon (:) or as a fraction.

The order the numbers are written in is very important.

Ratio Notation

4 : 7

Fraction Notation

$\frac{4}{7}$

first value is ALWAYS the NUMERATOR!

Ratio Notation can compare more than 2 items.

1 : 2 : 9

Fraction Notation can NOT compare more than 2 items

BOTH ratios and fractions must be in LOWEST terms

Use ratio Notation: (colon)

ex: Your Judo class has 27 people in it:

a) ratio of people with braces to without if 14 people do not have braces.

with braces : without braces ⇨ 13 : 14

total 27
− 14
13

Ratio. Can you reduce? → can the SAME number divide out of each.

b) there are 7 people with a black belt and 14 people with a yellow belt. What is the ratio of yellow to black belts?

yellow : black ⇨ 14 : 7 ⇨ 2 : 1
÷7 ÷7

Can reduce by a factor of 7 on BOTH sides

c) If 3 people join the class, what is

the ratio of total people, to yellow belts to braces.

total : yellow : braces

27+3

30 : 14 : 13

Use **fraction** Notation

ex: You have a fun-sized package of m&m's It contained 6 red, 3 brown, 8 green, 4 yellow and 3 blue peanut m&m's.

a) What is the ratio of yellow to red?

numerator

denominator

$\frac{\text{Yellow}}{\text{red}} \Rightarrow \frac{4}{6} \overset{\div 2}{\underset{\div 2}{}} \Rightarrow \frac{2}{3}$

can it reduce? Yes! ÷2 BOTH

b) What is the ratio of blue to the total?

$\frac{\text{blue}}{\text{total}} \Rightarrow \frac{3}{24} \overset{\div 3}{\underset{\div 3}{}} \Rightarrow \frac{1}{8}$

6+3+8+4+3

9+8+4+3

$17 + 4 + 3$

$21 + 3 = 24$

c) What is the ratio of blue and red to the remaining m&m's?

$$\frac{\text{blue} + \text{red}}{\text{brown} + \text{green} + \text{yellow}} \Rightarrow \frac{3+6}{3+8+4} \Rightarrow \frac{9}{15} \overset{\div 3}{\downarrow} \Rightarrow \frac{3}{5}$$